IN THE CLAIMS

All pending claims are herewith presented for the convenience of the Examiner.

Claims 1-20 (cancelled).

21. **(NEW)** A switching power amplifier for amplifying a high frequency input signal having at least one fundamental frequency, one or more tuned harmonics, and one or more untuned harmonics, comprising:

a high-speed active device that includes a switching component that operates substantially as a switch; and

a load network connected to the active device, wherein the load network provides an open circuit for even tuned harmonics, a short circuit for odd tuned harmonics, and a capacitive load for the untuned harmonics.

22. **(NEW)** The switching power amplifier of claim 21 wherein the load network provides a substantially inductive load at each fundamental frequency.

23. **(NEW)** The switching power amplifier of claim 21 wherein the load network provides a substantially inductive load at each fundamental frequency, and the substantially inductive load is matched to the capacitive load.

24. **(NEW)** The switching power amplifier of claim 21 wherein the load network provides:

a substantially inductive load at each fundamental frequency;

a substantially short circuit at a 3^{rd} harmonic; and

a substantially capacitive impedance load at the remaining harmonics, up to an N^{th} harmonic, where $N \geq 3$.

25. **(NEW)** The switching power amplifier of claim 21 wherein the load network provides:

a substantially inductive load at each fundamental frequency;

a substantially short circuit at a 3^{rd} harmonic;

a substantially open circuit at the 2^{nd} harmonic; and

a substantially capacitive impedance load at the remaining harmonics, up to an N^{th} harmonic, where $N \geq 4$.

26. **(NEW)** The switching power amplifier of claim 21 wherein the load network provides:

a substantially inductive load at each fundamental frequency;

a substantially open circuit at a 4^{th} harmonic; and

a substantially capacitive impedance load at the remaining harmonics, up to an N^{th} harmonic, where $N \geq 4$.

27. **(NEW)** The switching power amplifier of claim 21 wherein the load network provides:

a substantially inductive load at each fundamental frequency;

a substantially open circuit at a 2^{nd} harmonic and a 4^{th} harmonic; and

a substantially capacitive impedance load at the remaining harmonics, up to an N^{th} harmonic, where $N \geq 4$.

28. **(NEW)** The switching power amplifier of claim 21 wherein the load network provides:

a substantially inductive load at each fundamental frequency;

a substantially short circuit at a 3^{rd} harmonic;

a substantially open circuit at a 4^{th} harmonic; and

a substantially capacitive impedance load at the remaining harmonics, up to an N^{th} harmonic, where $N \geq 4$.

29. **(NEW)** The switching power amplifier of claim 21, wherein the load network provides:

a substantially inductive load at each fundamental frequency;

a substantially open circuit at a 2^{nd} harmonic; and

a substantially capacitive impedance load at the remaining harmonics, up to an N^{th} harmonic, where $N \geq 3$.

30. **(NEW)** The switching power amplifier of claim 21, wherein the load network provides:

a substantially inductive load at each fundamental frequency;

a substantially short circuit at a 3^{rd} harmonic;

a substantially open circuit at a 2^{nd} harmonic and a 4^{th} harmonic; and

a substantially capacitive impedance load at the remaining harmonics, up to an N^{th} harmonic, where $N \geq 5$.

31. **(NEW)** The switching power amplifier of claim 21, wherein the load network provides:

a substantially inductive load at each fundamental frequency;

a substantially short circuit at all odd harmonics up to an Nth harmonic; and

a substantially capacitive impedance load at the remaining harmonics, up to an Nth harmonic, where $N \geq 5$.

32. **(NEW)** The switching power amplifier of claim 21, wherein the load network provides:

a substantially inductive load at each fundamental frequency;

a substantially short circuit at all odd harmonics up to an N^{th} harmonic;

a substantially open circuit at a predetermined number, N_E, of even harmonics for each fundamental frequency up to an N^{th} harmonic; and

a substantially capacitive impedance load at the remaining harmonics, up to an N^{th} harmonic, where $N \geq 5$ and $0 < N_E \leq (N-2)/2$.

33. **(NEW)** A switching power amplifier for amplifying a high frequency input signal having at least one fundamental frequency, comprising:

a high-speed active device that includes a switching component; and

a load network connected to the active device, wherein the load network presents to the switching component, at all harmonic frequencies substantially present in at least one of the voltage and current waveforms of the active device,

a substantially inductive load at each fundamental frequency;

a substantially open circuit at a predetermined number, N_E, of even harmonic overtones for each fundamental frequency,

a substantially short circuit at a predetermined number, N_O, of odd harmonic overtones for each fundamental frequency, and

a substantially capacitive impedance load at a predetermined number of remaining harmonic overtones.

34. **(NEW)** The amplifier of claim 33, wherein $N \geq 3$ and $1 \leq N_E + N_O \leq N-2$.

35. **(NEW)** The amplifier of claim 33, wherein if $N_E = 1$, then $N_O > 0$.

36. **(NEW)**The amplifier of claim 33, wherein the load network includes a two port filter network having an input port and an output port, the input port being connected to the active device and the output port being connected to the load.

37. **(NEW)** A method of amplifying an RF signal with a high speed active device, comprising:

tuning a load network connected to the active device so as to provide a substantially open circuit to the active device at selected even harmonics N_E;

tuning the load network signal to provide a substantially short circuit to the active device at selected odd harmonics N_O; and

providing substantially capacitive loading to the active device for non-selected harmonics.

38. **(NEW)** The method of claim 37 further comprising tuning the load network to provide a substantially inductive load to the active device at the fundamental frequency.

39. **(NEW)** The method of claim 37 wherein $N_E \geq 0$, $N_O \geq 0$, and the total number of tuned harmonic overtones, $N_E + N_O$, is at least one and less than the total number of harmonic frequencies substantially present.